

Fence Specifications in Bighorn Sheep Range

Wire	Type	Position
1st	smooth	20" above ground
2nd	barbed	15" above bottom wire
3rd	smooth or barbed	4" above second wire

Total Fence Height - 39"

Burro Exclusion Fence Specifications in Bighorn Sheep Range

Wire	Type	Position
1st	rail	20" above ground
2nd	rail	16" above bottom rail
3rd	barbed	8" above second rail
4th	barbed	4" above third wire

- OR -

1st	rail	20" above ground
2nd	rail	16" above bottom rail
3rd	rail	6" above second rail

Total Fence Height - 42 - 48"

Fence Specifications for Pronghorn Habitat

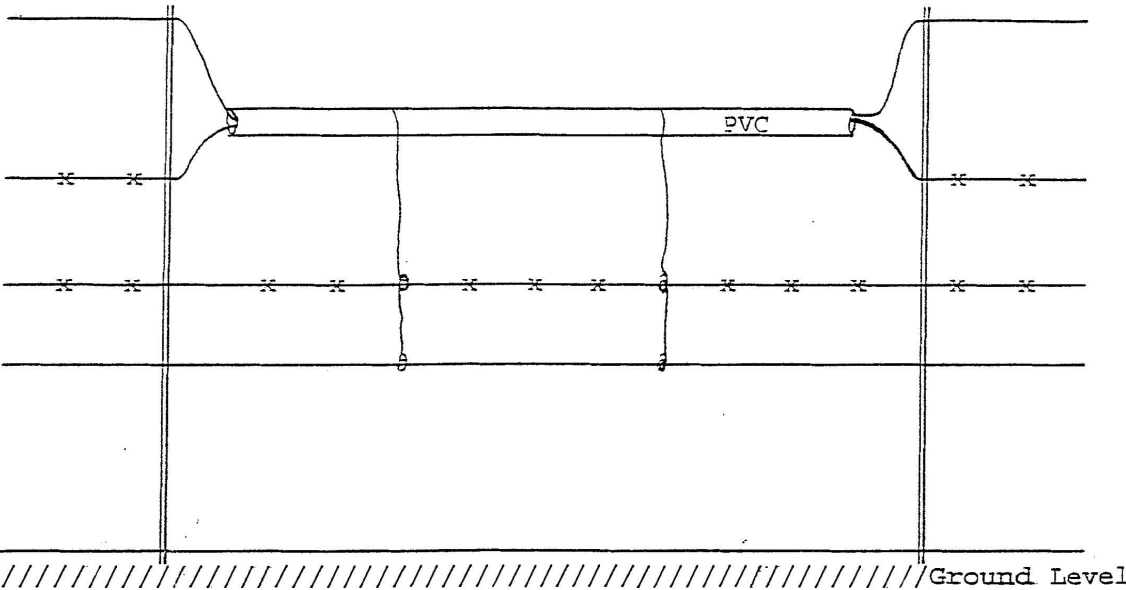
Wire	Type	Position
1st	smooth	16" above ground
2nd	barbed	14" above bottom wire
3rd	barbed	12" above second wire

Total Fence Height - 42"

Additional Specification: Sixteen to thirty feet between posts; no fence stays between posts that are less than 20 feet apart, only one stay between posts greater than 20 feet apart.

Note: The AGFD standard recommended fence is an adequate alternative. However, stays should be omitted, or reduced in number if deer are generally absent from the area.

ARIZONA GAME AND FISH DEPARTMENT
PVC FENCE CROSSING FOR ELK
April 11, 1994



Materials: 10' Length 1½" or 1½" PVC
Boundary Fence
Wire Cutters
Leather Gloves

Instructions:

1. Remove fence stays between two primary fence posts.
2. Cut the top two wires approximately 18-24 inches from one of the primary posts.
3. Run both wires through the PVC. Then re-stretch and re-tie both wires.
4. Use smooth wire to form wire stays that hold down the PVC to the bottom two wires.

Notes: Time to install ~ 10-15 minutes.
Cost ~ \$2.50-\$5.00 for PVC.

Revised 4/11/94
Habitat Branch
BV:no



THE STATE OF ARIZONA
GAME AND FISH DEPARTMENT
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DEPUTY DIRECTOR
STEVE K. FERRELL



January 18, 2002

Ms. Fiona Goodson
HDR
2141 E. Highland Ave.
Suite 250
Phoenix, AZ 85016-4736

Re: Special Status Species Information for **Township 2 North, Range 1 East, Sections 33-36; Township 2 North, Range 2 East Sections 31-34; Township 1 North, Range 1 East, Sections 1-36; Township 1 North, Range 2 East Sections 3-10, 15-22, 27-34; Township 1 South, Range 1 East Sections 1, 12; Township 1 South, Range 2 East Sections 17, 18, 20, 27, 28, 34, and 35; Township 1 South, Range 3 East, Sections 31-36; Township 1 South, Range 4 East Sections 31-33, ADOT South Mountain Corridor Study.**

Dear Ms. Goodson:

The Arizona Game and Fish Department (Department) has reviewed your request, dated January 10, 2002, regarding special status species information associated with the above-referenced project area. The Department's Heritage Data Management System (HDMS) has been accessed and current records show that the special status species listed on the attachment have been documented as occurring in the project area. In addition, this project does not occur in the vicinity of any proposed or designated Critical Habitats.

The Department's HDMS data are not intended to include potential distribution of special status species. Arizona is large and diverse with plants, animals, and environmental conditions that are ever changing. Consequently, many areas may contain species that biologists do not know about or species previously noted in a particular area may no longer occur there. Not all of Arizona has been surveyed for special status species, and surveys that have been conducted have varied greatly in scope and intensity.

Making available this information does not substitute for the Department's review of project proposals, and should not decrease our opportunities to review and evaluate new project proposals and sites. The Department is also concerned about other resource values, such as other wildlife, including game species, and wildlife-related recreation.

Ms. Fiona Goodson
January 18, 2002
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The Department would appreciate the opportunity to provide an evaluation of impacts to wildlife or wildlife habitats associated with project activities occurring in the subject area, when specific details become available.

If you have any questions regarding the attached species list, please contact me at (602) 789-3618. General status information and county distribution lists for special status species are also available on our web site at:
http://www.azgfd.com/frames/fishwild/hdms_site/Home.htm.

Sincerely,

Sabra S. Schwartz
Heritage Data Management System, Coordinator

SSS:ss

Attachment

cc: Bob Broscheid, Project Evaluation Program Supervisor
Russ Haughey, Habitat Program Manager, Region VI

AGFD #1-11-02(03)

STATUS DEFINITIONS
ARIZONA GAME AND FISH DEPARTMENT (AGFD)
HERITAGE DATA MANAGEMENT SYSTEM (HDMS)

FEDERAL US STATUS

- ESA** Endangered Species Act (1973 as amended)
US Department of Interior, Fish and Wildlife Service (<http://arizonaes.fws.gov>)
- Listed**
- LE** Listed Endangered: imminent jeopardy of extinction.
 - LT** Listed Threatened: imminent jeopardy of becoming Endangered.
 - XN** Experimental Nonessential population.
- Proposed for Listing**
- PE** Proposed Endangered.
 - PT** Proposed Threatened.
- Candidate** (Notice of Review: 1999)
- C** Candidate. Species for which USFWS has sufficient information on biological vulnerability and threats to support proposals to list as Endangered or Threatened under ESA. However, proposed rules have not yet been issued because such actions are precluded at present by other listing activity.
 - SC** Species of Concern. The terms "Species of Concern" or "Species at Risk" should be considered as terms-of-art that describe the entire realm of taxa whose conservation status may be of concern to the US Fish and Wildlife Service, but neither term has official status (currently all former C2 species).
- Critical Habitat** (check with state or regional USFWS office for location details)
- Y** Yes: Critical Habitat has been designated.
 - P** Proposed: Critical Habitat has been proposed.
- [\N No Status: certain populations of this taxon do not have designated status (check with state or regional USFWS office for details about which populations have designated status)].
- USFS** US Forest Service (1999 Animals, 1999 Plants: corrected 2000)
US Department of Agriculture, Forest Service, Region 3 (<http://www.fs.fed.us/r3/>)
- S** Sensitive: those taxa occurring on National Forests in Arizona which are considered sensitive by the Regional Forester.
- BLM** US Bureau of Land Management (2000 Animals, 2000 Plants)
US Department of Interior, Bureau of Land Management, Arizona State Office (<http://azwww.az.blm.gov>)
- S** Sensitive: those taxa occurring on BLM Field Office Lands in Arizona which are considered sensitive by the Arizona State Office.
 - P** Population: only those populations of Banded Gila monster (*Heloderma suspectum cinctum*) that occur north and west of the Colorado River, are considered sensitive by the Arizona State Office.

Status Definitions 3 AGFD, HDMS

STATE STATUS

- NPL** Arizona Native Plant Law (1999)
Arizona Department of Agriculture (<http://agriculture.state.az.us/PSD/nativeplants.htm>)
- HS** Highly Safeguarded: no collection allowed.
 - SR** Salvage Restricted: collection only with permit.
 - ER** Export Restricted: transport out of State prohibited.
 - SA** Salvage Assessed: permits required to remove live trees.
 - HR** Harvest Restricted: permits required to remove plant by-products.
- WCSA** Wildlife of Special Concern in Arizona (1996 in prep)
Arizona Game and Fish Department (<http://www.azgfd.com>)
- WC** Wildlife of Special Concern in Arizona. Species whose occurrence in Arizona is or may be in jeopardy, or with known or perceived threats or population declines, as described by the Arizona Game and Fish Department's listing of Wildlife of Special Concern in Arizona (WCSA, in prep). Species indicated on printouts as WC are currently the same as those in **Threatened Native Wildlife in Arizona** (1988).

Revised 10/3/01, AGFD HDMS
J:\HDMS\DOCUMENT\NBOOKS\TEMPLATE\EORDEFS\STATDEF

Special Status Species within .5 Miles of T2N,R1E Sec 33-36; T2N,R2E Sec 31-34;
T1N,R1E Sec 1-36; T1N,R2E Sec 3-10, 15-22, 27-34; T1S,R1E Sec 1, 12;
T1S,R2E Sec 17, 18, 20, 27, 28, 34, 35; T1S,R3E Sec 31-36; T1S,R4E Sec 31-33

Arizona Game and Fish Department, Heritage Data Management System
January 18, 2002

Scientific Name	Common Name	ESA	USFS	BLM	WSCA	NPL
ATHENE CUNICULARIA HYPUGAEA	WESTERN BURROWING OWL	SC		S		
COCCYZUS AMERICANUS	YELLOW-BILLED CUCKOO	C	S		WC	
DENDROCYGNA AUTUMNALIS	BLACK-BELLIED WHISTLING-DUCK				WC	
GOPHERUS AGASSIZII (SONORAN POPULATION)	SONORAN DESERT TORTOISE	SC			WC	

No Critical Habitats in project area. AGFD #01-11-02(03), ADOT South Mountain Corridor Study.



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May 6, 2002

Ms. Sirena Brownlee
HDR
Park One
2141 E. Highland Ave.
Suite 250
Phoenix, AZ 85016-4736

Re: Special Status Species Shapefiles for South Mountain Area

Dear Ms. Brownlee:

Enclosed is the information requested in your April 19, 2002, email for species shapefiles for the South Mountain area (shapefile provided by HDR Engineering). The data is provided in ArcView shapefiles in NAD 27, Zone 12 projection. It is my understanding that the information is to be used to identify areas of high biodiversity for project components.

Per your request, enclosed is a diskette with a shapefile for species tracked by the Heritage Data Management System (HDMS). The HDMS focuses its efforts on special status or otherwise rare species. The data set are not intended to include potential locations, but are actual point observation or collections. The locations are one-mile radius polygons, but no names of the species are included. The areas are where special status species have been documented. The status information is included (i.e. listed endangered, BLM sensitive), but no other identifier is included, such as name or taxonomic group.

These data are still considered to contain sensitive information that if used inappropriately could worsen the situation of already sensitive species. For this reason, please consider these data as property of the Arizona Game and Fish Department (Department), and as such, are confidential. Consequently, the Department is providing the requested data with confirmation of your understanding and acceptance of the following conditions:

- HDMS data provided by the Department will be used solely for the purpose of analyzing areas of high biodiversity, **and no other project**, and will be used solely by your office to conduct analysis.
- HDMS data provided by the Department will not be distributed to other organizations, to individuals, or the public, or put on the Internet.

Ms. Sirena Brownlee
May 6, 2002
2

- No HDMS data provided by the Department will be retained after the completion of your analysis as hard or soft copy. HDMS data provided by the Department will be deleted from any and all computers used in this project and returned to the Department upon completion of the analysis.
- Site locality data will not be included in or as part of any product released to the public. The site data maps are to be used solely for internal planning efforts. Only correlation or statistics and interpretations will be made public. No maps or tables of point locations will be included in any product for external use. Any maps used for this project will be at such a scale as to cover a minimum of more than one square mile.
- All 3rd party requests for access to this data will be referred to the HDMS at the Department.
- The information being provided by the Department is for general planning purposes only, and is not to replace any future correspondence requesting special status species information for a specific project.

Previous conduct of applicants is considered in processing requests for information. Because general release of site-specific data will negatively impact sensitive species, the Department will only release this information if it can assure adequate protection to the species. If the above agreed upon terms are violated, it will be considered a breach of agreement and you will be denied site specific level information in the future.

Please feel free to contact me at (602) 789-3618 if you have any questions with the data being provided. A hard copy field definition list is also provided with the data.

Sincerely,



Sabra S. Schwartz
HDMS Coordinator

SSS:ss

Enclosure



THE STATE OF ARIZONA
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October 12, 2004

Ms. Andrea Love
HDR Engineering, Inc.
3200 E. Camelback Rd., Ste. 350
Phoenix, AZ 85018-2311

Re: South Mountain Transportation Corridor in Maricopa County, Draft Biological Technical Report, dated October 2003

Dear Ms. Love:

The Arizona Game and Fish Department (Department) has reviewed the Draft Biological Technical Report for the South Mountain Transportation Corridor (Report). The Department appreciates the opportunity to provide comments for the technical study and looks forward to reviewing the Draft Environmental Impact Statement (DEIS) when it becomes available. The following specific comments are provided for your consideration:

Affected Environment and Environmental Consequences

Wildlife Resources:

Page 3-6; The species list associated with the South Mountain Park/Preserve should include other nocturnal species such as owls and various species of bats.

Paragraph 3; the statement that the agricultural fields "have little value for native plants or wildlife", should be modified. Burrowing owls (state species of concern) are frequently located on the perimeter of agricultural fields utilizing fields for hunting and irrigation dikes for nesting. A brochure is enclosed for further information on burrowing owls.

Last sentence; this pertains to the sand and gravel pits along the Salt River riverbed and their potential use as wildlife habitats. The Report states, "...unlike natural ecosystems, the steep sides of the pits create less important zonal habitat than natural aquatic systems like rivers or lakes." If the gravel pits are non-active they could have their slopes modified to create shallow water habitats which would provide more suitable habitat to wildlife.

Last paragraph; this section only addresses those washes that have been or will be directly impacted by the project. A description of intact washes, including their functionality and ability to support wildlife should be included in the Report.

Ms. Andrea Love
October 12, 2004
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Environmental Consequences: Impacts Associated with All Action Alternatives:
Page 3-6 (last line on page); impacts are referenced as being largely restricted to a limited number of roadkills and disturbances caused by traffic noise (USDOT 2000). Roadkill and noise disturbances can result in major impacts to wildlife species. We recommend that any sections pertaining to road disturbances and how roads may be made more permeable for wildlife be expanded. Much research is being done nationwide (California, Florida, Colorado) regarding road design and their ability to support wildlife movement and the Department recommends that these studies be considered.

Wildlife movement corridors between the South Mountain Park area and the Sierra Estrella Mountains should be elevated in importance within the document. The establishment of wildlife crossings should be incorporated into the document in more detail and with a greater level of emphasis. This would allow for the potential dispersal of species between the two ranges despite the current level of degradation of the native habitats to prevent the establishment or further development of a “population sink” effect in habitats adjacent to the park. Potential locations and designs for movement corridors should be provided in the DEIS and should be included in the *Measures to Minimize Harm* section of the Report.

Measures to Minimize Harm:
Paragraph 2; the Report states that the Arizona Department of Transportation (ADOT) will landscape disturbed areas with native plants but does not indicate if there will be any monitoring to measure the success of the planting effort. Please indicate what steps will be taken to keep exotic species out of the revegetated areas and if there are any plans to replant if the revegetation is unsuccessful.

Paragraph 3; plans should be included on how the equipment wash water will be disposed of to avoid dispersing nonnative seeds to another location.

Paragraph 5; raised roadbeds (overpasses) allow for the maintenance of more natural vegetation, require less fill and have been demonstrated to have a higher rate of usage for more species than the standard drainage or box culvert crossing. This recommendation relates back to the above section regarding wildlife movement corridors.

Threatened and Endangered Species:
The Report should include a complete evaluation of all wildlife species, including special status species that are represented in the study area and within the 5-mile boundary. The DEIS should contain a thorough review, including potential impacts and mitigation of impacts for all species located within the 5-mile boundary. The Department utilizes boundaries that extend beyond the study area to account for wildlife movement. An evaluation should be made regarding potential impacts to each species considering their range, habitat use, breeding periods, etc.

Ms. Andrea Love
October 12, 2004
3

All wildlife species identified are either diurnal or crepuscular in nature. Obligate nocturnal species should also be identified, such as bats, owls, etc.

For any species where you are indicating that there are no current records, “current” should be defined. In addition, the state acronym for Wildlife Species of Concern is WSC, rather than WC.

P. 3-13, paragraph 1; please indicate the WSC species that the Report refers to as being “documented in the vicinity of alternative T02 and options T02A and T02B.

Environmental Consequences: Impacts Associated with All Build Alternatives:
Page 3-13; states that, “Tres Rios is in the vicinity, less than 1 mile to the west, and it is likely that the birds would relocate to that area.” An explanation of how Tres Rios can support the influx of displaced wildlife whether birds, or other species, should be provided.

Cumulative Impacts

The increase in non-native plants is identified, as well as the additional impacts associated with the species such as increases in non-native wildlife which are known to displace native species, e.g. European starling vs. Gila woodpecker. The document should provide potential alternatives for mitigating these foreseeable impacts to the environment. As non-native species become established in close proximity to relatively native habitat such as that in south Mountain Park, these native areas become increasingly stressed and therefore more susceptible to invasion by non-native species.

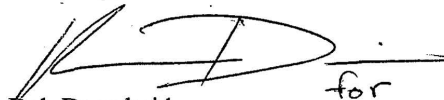
This section should also address the cumulative impacts that may occur to Tres Rios in relation to all project activities. This description should include the influx of wildlife as previously discussed and the impacts of noise and disturbance to wildlife at Tres Rios.

The Department appreciates the opportunity to provide comments for this project and we would be interested in working with your team to address the comments provided herein as part of your range of alternatives and your preferred alternative. The Department is committed to partnering with agencies and managers to maintain wildlife permeability across the state of Arizona as habitat fragmentation is a serious issue that can cause species decline when important habitat components such as breeding sites or food sources can no longer be accessed. Populations can decline in the long term from lack of genetic variability that can eventually lead to species being federally listed as endangered or threatened.

Ms. Andrea Love
October 12, 2004
4

The Department looks forward to coordinating with your planning team as needed, when identifying the locations of alternative wildlife crossings. Please coordinate with Rebecca Davidson, Project Evaluation Program Supervisor at (602) 789-3602, if you have any questions regarding these comments.

Sincerely,


for
Bob Broscheid
Habitat Branch Chief

BB:ea

Enclosure

cc: Rebecca Davidson, Project Evaluation Program Supervisor
Russ Haughey, Habitat Program Manager, Region VI

AGFD# 03-30-04 (01)



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STEVE K. FERRELL



October 25, 2004

Ms. Andrea Love
HDR Engineering, Inc.
3200 E. Camelback Rd.
Suite 350
Phoenix, AZ 85018

Re: Special Status Species Information for Township 2 North, Range 1 East, Section 33-36; Township 2 North, Range 2 East, Section 31-34; Township 1 North, Range 1 East, Section 1-36; Township 1 North, Range 2 East, Section 3-10, 15-22, and 27-34; Township 1 South, Range 1 East, Section 1 and 12; Township 1 South, Range 2 East, Section 17, 18, 20, 27, 28, 34, and 35; Township 1 South, Range 3 East, Section 31-36; Township 1 South, Range 4 East, Section 31-33: Proposed Freeway Connection.

Dear Ms. Love:

The Arizona Game and Fish Department (Department) has reviewed your request, dated October 6, 2004, regarding special status species information associated with the above-referenced project area. The Department's Heritage Data Management System (HDMS) has been accessed and current records show that the special status species listed on the attachment have been documented as occurring in the project vicinity (2-mile buffer). In addition this project does not occur in the vicinity of any Designated or Proposed Critical Habitats.

The Department's HDMS data are not intended to include potential distribution of special status species. Arizona is large and diverse with plants, animals, and environmental conditions that are ever changing. Consequently, many areas may contain species that biologists do not know about or species previously noted in a particular area may no longer occur there. Not all of Arizona has been surveyed for special status species, and surveys that have been conducted have varied greatly in scope and intensity.

Making available this information does not substitute for the Department's review of project proposals, and should not decrease our opportunities to review and evaluate new project proposals and sites. The Department is also concerned about other resource values, such as other wildlife, including game species, and wildlife-related recreation. The Department would appreciate the opportunity to provide an evaluation of impacts to wildlife or wildlife habitats associated with project activities occurring in the subject area, when specific details become available.

Ms. Andrea Love
October 25, 2004
2

If you have any questions regarding this letter, please contact me at (602) 789-3619. General status information, county and watershed distribution lists and abstracts for some special status species are also available on our web site at <http://www.azgfd.com/hdms>.

Sincerely,



Ginger L. Ritter
Heritage Data Management System, Data Specialist

SSS:glr

Attachment

cc: Rebecca Davidson, Project Evaluation Program Supervisor
Russ Haughey, Habitat Program Manager, Region VI

AGFD #10-21-04 (01)

Special Status Species within 2 Miles of T2N, R1E Sec. 33-36; T2N, R2E Sec. 31-34; T1N, R1E Sec. 1-36; T1N, R2E Sec. 3-10, 15-22, & 27-34; T1S, R1E Sec. 1 & 12; T1S, R2E Sec. 17, 18, 20, 27, 28, 34, & 35; T1S, R3E, Sec. 31-36; T1S, R4E Sec. 31-33

NAME	COMMON NAME	ESA	BLM	USFS	STATE
<i>Athene cunicularia hypugaea</i>	Western Burrowing Owl	SC	S		
<i>Coccyzus americanus occidentalis</i>	Western Yellow-billed Cuckoo	C		S	WSC
<i>Dendrocygna autumnalis</i>	Black-bellied Whistling-duck				WSC
<i>Gopherus agassizii</i> (Sonoran Population)	Sonoran Desert Tortoise	SC			WSC
<i>Ixobrychus exilis</i>	Least Bittern				WSC
<i>Lasiurus blossevillii</i>	Western Red Bat				WSC
<i>Rallus longirostris yumanensis</i>	Yuma Clapper Rail	LE			WSC

No Critical Habitats in project area. AGFD # 10-21-04(01). Proposed Freeway Connection.

Arizona Game and Fish Department, Heritage Data Management System, October 25, 2004.

STATUS DEFINITIONS
ARIZONA GAME AND FISH DEPARTMENT (AGFD)
HERITAGE DATA MANAGEMENT SYSTEM (HDMS)

FEDERAL US STATUS

- ESA** **Endangered Species Act** (1973 as amended)
US Department of Interior, Fish and Wildlife Service (<http://arizonaes.fws.gov>)
- Listed**
- LE** Listed Endangered: imminent jeopardy of extinction.
 - LT** Listed Threatened: imminent jeopardy of becoming Endangered.
 - XN** Experimental Nonessential population.
- Proposed for Listing**
- PE** Proposed Endangered.
 - PT** Proposed Threatened.
- Candidate** (Notice of Review: 1999)
- C** Candidate. Species for which USFWS has sufficient information on biological vulnerability and threats to support proposals to list as Endangered or Threatened under ESA. However, proposed rules have not yet been issued because such actions are precluded at present by other listing activity.
 - SC** Species of Concern. The terms "Species of Concern" or "Species at Risk" should be considered as terms-of-art that describe the entire realm of taxa whose conservation status may be of concern to the US Fish and Wildlife Service, but neither term has official status (currently all former C2 species).
- Critical Habitat** (check with state or regional USFWS office for location details)
- Y** Yes: Critical Habitat has been designated.
 - P** Proposed: Critical Habitat has been proposed.
- [\N No Status: certain populations of this taxon do not have designated status (check with state or regional USFWS office for details about which populations have designated status)].
- USFS** **US Forest Service** (1999 Animals, 1999 Plants: corrected 2000)
US Department of Agriculture, Forest Service, Region 3 (<http://www.fs.fed.us/r3/>)
- S** Sensitive: those taxa occurring on National Forests in Arizona which are considered sensitive by the Regional Forester.
- BLM** **US Bureau of Land Management** (2000 Animals, 2000 Plants)
US Department of Interior, Bureau of Land Management, Arizona State Office (<http://azwww.blm.gov>)
- S** Sensitive: those taxa occurring on BLM Field Office Lands in Arizona which are considered sensitive by the Arizona State Office.
 - P** Population: only those populations of Banded Gila monster (*Heloderma suspectum cinctum*) that occur north and west of the Colorado River, are considered sensitive by the Arizona State Office.

Status Definitions

3

AGFD, HDMS

STATE STATUS

STATE:

Plants - NPL **Arizona Native Plant Law** (1999)
Arizona Department of Agriculture (<http://agriculture.state.az.us/PSD/nativeplants.htm>)

- HS** Highly Safeguarded: no collection allowed.
- SR** Salvage Restricted: collection only with permit.
- ER** Export Restricted: transport out of State prohibited.
- SA** Salvage Assessed: permits required to remove live trees.
- HR** Harvest Restricted: permits required to remove plant by-products.

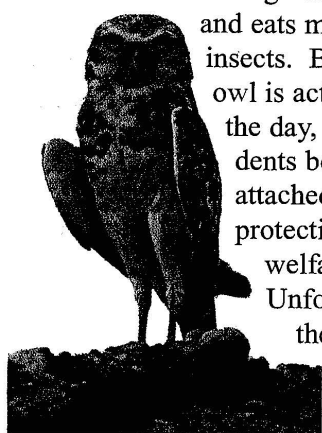
Wildlife - WSCA **Wildlife of Special Concern in Arizona** (in prep)
Arizona Game and Fish Department (<http://www.azgfd.com>)

WSC Wildlife of Special Concern in Arizona. Species whose occurrence in Arizona is or may be in jeopardy, or with known or perceived threats or population declines, as described by the Arizona Game and Fish Department's listing of Wildlife of Special Concern in Arizona (WSCA, in prep). Species indicated on printouts as WSC are currently the same as those in **Threatened Native Wildlife in Arizona** (1988).

Revised 8/24/04, AGFD HDMS
J:\HDMS\DOCUMENT\NBOOKS\TEMPLATE\EORDEFS\STATDEF

The Burrowing Owl Project

The Burrowing Owl is a beneficial raptor that lives in underground burrows and eats mice and insects. Because the owl is active during the day, nearby residents become very attached to them and protective of their welfare.



Unfortunately, in the past, heavy equipment has been used to prepare a site while the owls were still living there, in many cases killing the adult owls and burying baby owls in the nest. No one would deliberately chop down a tree with an eagle on a nest, yet that is what is happening to the Burrowing Owl. Because this bird lives underground, it is not immediately apparent that there are protected birds in danger. Moving the birds out of the way is very inexpensive compared to a project delay. A licensed specialist, such as Wild At Heart in Cave Creek, Arizona, can remove the owls and relocate them to an area that won't be developed.

For More Information

- To report the location of a Burrowing Owl burrow that lies in the path of development, or to request help in removing an owl, contact:
Bob Fox
Wild At Heart
31840 North 45th Street
Cave Creek, Arizona 85331
(480) 595-5047
- To request help in finding or evaluating a site for artificial burrows, contact:
Greg Clark
Burrowing Owl Project
650 South 79th Street
Chandler, Arizona 85226
(480) 961-4047
- Visit the Burrowing Owl Project web site at <http://mirror-pole.com> for details about owl removal, relocation and burrow installation locations.
- For more information about Arizona Partners in Flight contact:
Jennifer Martin
Arizona Partners in Flight
Arizona Game and Fish Dept.
2221 W. Greenway Road
Phoenix, Arizona 85023-4399
(602) 789-3576
jmartin@gf.state.az.us

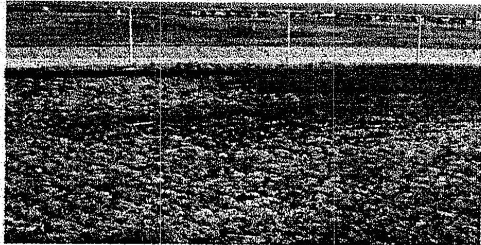
DEVELOPMENT AND BURROWING OWLS IN ARIZONA

Don't let poor planning cause delays and cost you money!

If you do not move this owl well before grading begins, it could delay your project, make enemies of the neighbors, and possibly subject your company to fines for breaking a federal law, the Migratory Bird Treaty Act of 1918.

Where Are the Owls Found?

It is possible to find Burrowing Owls anywhere in Arizona where the land is flat and open. The most likely locations are near agricultural fields where the burrows are found in dirt canal banks

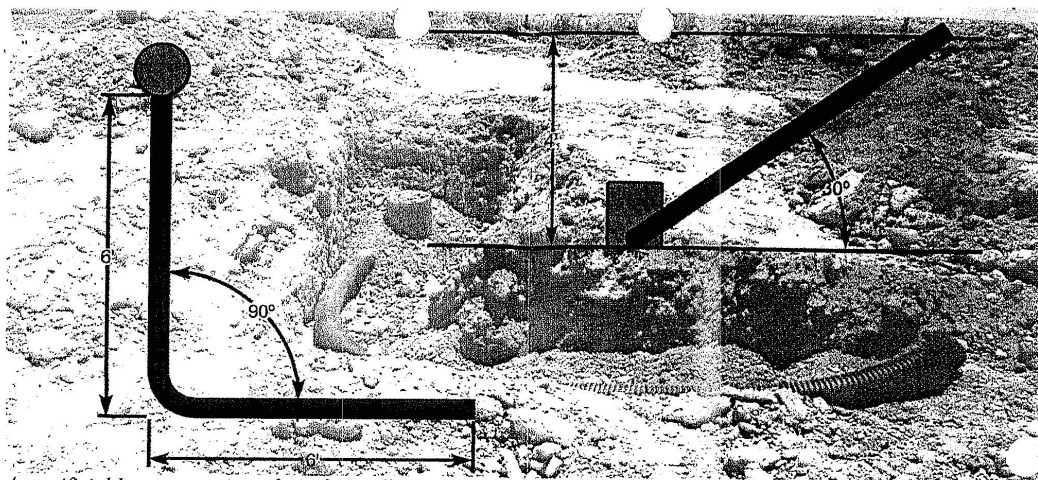
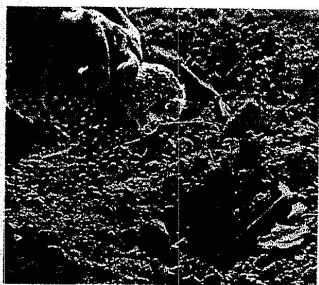


and culvert pipes. Burrowing Owls are also found in undisturbed desert and grassland areas where the vegetation is sparse and there are very few big trees.

What is Relocation?

Burrowing Owls can be safely captured by an expert and held for later release. Typically, the site for the release is designated within or near the development, and artificial burrows are installed in advance of capture.

The cost of materials for a burrow is only \$10, and digging the hole for installation is quick and easy with a backhoe.



An artificial burrow consists of one five-gallon plastic bucket and 12 feet of perforated drain pipe.

Be Part of the Solution

Burrowing Owls are a valuable addition to a development. Wholly beneficial, they catch insects, such as scorpions, and rodents that most people would rather not have around. In addition, the owls can be an important educational resource for schools and children.

The builder provided a backhoe and operator to excavate the hole for an artificial burrow.



ASU students digging a hole for an artificial burrow.

Partners in Flight

Partners in Flight

is an international cooperative program of agencies, organizations, and individuals committed to conserving our neotropical migratory and native land birds.

Arizona Partners in Flight

(APIF) is a subgroup of this international program. Its goal is to maintain healthy populations of Arizona's birds and their habitats.

This brochure was created as part of the Partners in Flight Conservation Initiative. Through improved habitat management and environmental awareness, Partners in Flight strives to reverse the declining numbers of many North American bird species and to work toward keeping common birds common.

GUIDELINES FOR HANDLING SONORAN DESERT TORTOISES ENCOUNTERED ON DEVELOPMENT PROJECTS

Arizona Game and Fish Department

Revised January 17, 1997

The Arizona Game and Fish Department (Department) has developed the following guidelines to reduce potential impacts to desert tortoises, and to promote the continued existence of tortoises throughout the state. These guidelines apply to short-term and/or small-scale projects, depending on the number of affected tortoises and specific type of project.

Desert tortoises of the Sonoran population are those occurring south and east of the Colorado River. Tortoises encountered in the open should be moved out of harm's way to adjacent appropriate habitat. If an occupied burrow is determined to be in jeopardy of destruction, the tortoise should be relocated to the nearest appropriate alternate burrow or other appropriate shelter, as determined by a qualified biologist. Tortoises should be moved less than 48 hours in advance of the habitat disturbance so they do not return to the area in the interim. Tortoises should be moved quickly, kept in an upright position at all times and placed in the shade. Separate disposable gloves should be worn for each tortoise handled to avoid potential transfer of disease between tortoises. Tortoises must not be moved if the ambient air temperature exceeds 105 degrees Fahrenheit unless an alternate burrow is available or the tortoise is in imminent danger.

A tortoise may be moved up to two miles, but no further than necessary from its original location. If a release site, or alternate burrow, is unavailable within this distance, and ambient air temperature exceeds 105 degrees Fahrenheit, the Department should be contacted to place the tortoise into a Department-regulated desert tortoise adoption program. Tortoises salvaged from projects which result in substantial permanent habitat loss (e.g. housing and highway projects), or those requiring removal during long-term (longer than one week) construction projects, will also be placed in desert tortoise adoption programs. *Managers of projects likely to affect desert tortoises should obtain a scientific collecting permit from the Department to facilitate temporary possession of tortoises.* Likewise, if large numbers of tortoises (>5) are expected to be displaced by a project, the project manager should contact the Department for guidance and/or assistance.

Please keep in mind the following points:

- These guidelines do not apply to the Mohave population of desert tortoises (north and west of the Colorado River). Mohave desert tortoises are specifically protected under the Endangered Species Act, as administered by the U.S. Fish and Wildlife Service.
- These guidelines are subject to revision at the discretion of the Department. We recommend that the Department be contacted during the planning stages of any project that may affect desert tortoises.
- Take, possession, or harassment of wild desert tortoises is prohibited by state law. Unless specifically authorized by the Department, or as noted above, project personnel should avoid disturbing any tortoise.

RAC:NLO:rc

-----Original Message-----

From: Alicia Jontz [<mailto:AJontz@gf.state.az.us>]

Sent: Friday, March 31, 2006 11:19 AM

To: Morage, Michael E.

Cc: Russ Haughey; Pat Crouch; Ray Schweinsburg; Kelly Wolff

Subject: South Mountain Parkway

Michael,

On February 17, 2006, Arizona Game and Fish Department biologists met with Phoenix Parks and Recreation Department at South Mountain to evaluate the proposed route for the continuation of Loop 202, the alternative routes and the proposed wildlife crossings. The Department is strongly committed to maintaining connectivity between wildlife habitats within Arizona. Connectivity should be maintained between South Mountain Park and the Estrella Mountains if possible. In the review of the proposed freeway construction and site visit several challenges to maintaining connectivity between the mountain ranges were noted.

In order for any wildlife crossings to be successful, it is essential that undeveloped wildlife corridors be established and maintained between South Mountain Park and the Estrella Mountains. The majority of the land falling between the two mountain ranges belongs to the Gila River Indian Community. This land is currently sparsely developed; however, while on site, we observed areas that appear to be prepared for development. GRIC would need to be involved in this process and agree to establish corridors across their land. Since reservations are essentially a sovereign nation and many tribes face economic challenges, it may be extremely difficult to develop a relationship with the GRIC at this late juncture and have them set aside lands that they may otherwise develop to the benefit of their economy and tribal members. Surface streets, such as 51st Avenue, may also prove to be barriers to successful wildlife movement as traffic increases. If wildlife corridors are established it may be necessary to place crossings on surface streets lying between the two mountain ranges.

While reviewing the proposed freeway design, we noted that at final buildout, the new freeway is scheduled to be a solid roadway including both lanes of travel and HOV lanes, without a break in the median. A freeway of this size would require lengthy wildlife underpasses or tunnels. Research has shown that many species will not use these large crossings, due to reduced visibility inside the crossing and the inability to see the other side of the crossing. A preferred alternative would be to separate the two lanes of travel, at crossings, allowing for a break in the median and natural light to penetrate the wildlife crossing. The wildlife crossings would then be built at two shorter crossings, which wildlife will more readily use. If this is not possible, the use of artificial lighting inside the crossing may be sufficient.

Currently, the new freeway is proposed to be a ground level freeway with several small wildlife crossings such as box culverts and a few larger crossings. Coyotes, javelina, bobcats, foxes desert tortoises, snakes, gila monsters, chuckwalls are known to occur within South Mountain Park. Both historically and recently, there have been several credible, but unconfirmed sightings of Mountain Lions within South Mountain Park. Mule deer have not be documented in South Mountain Park for some time and are believed to be extirpated from the area; however, it is possible they still occur in small numbers. The smaller box culvert type crossings will work for many of the smaller wildlife species; however, larger crossings such a raised bridge, provide a more effective crossing for all wildlife species. Natural stream beds or washes may be appropriate places to locate the bridges. With either type of crossing it is essential that the bottom of the crossing be a natural substrate, not the bottom of a concrete box or metal tube, and that fencing is used to encourage use of the crossing.

In the plans for the proposed wildlife crossings, a multiple use crossing was outlined that would allow for both wildlife crossing and human recreation such as hiking and horseback riding. We would strongly discourage this type of design for a wildlife crossing. While some human traffic is unavoidable, managing for high use human recreation would discourage wildlife from using the area, making the crossing ineffective for wildlife movements.

Several routes are proposed to connect the 202 to I-10 in the west valley. In order to maintain the quality and integrity of our riparian systems, the 75th Avenue alternative would be preferable to the 91st Avenue alternative.

The Department appreciates the effort and consideration put into this project by ADOT and other participating parties. Wildlife crossings on roadways in Arizona are relatively new and previously concessions were not made for wildlife. In this instance all involved parties may need to consider that due to expanding development in the Phoenix metropolitan area and the lack of long term sustainable corridors between South Mountain and the Estrella Mountains across GRIC land, this project may not be the highest priority for wildlife crossings in the state. While some wildlife crossings may be appropriate, large expenditures of state funds may not be appropriate in this case. Any wildlife that migrates from the Estrella Mountains into South Mountain park will find themselves landlocked by development and may end up in the urban area causing conflicts with human populations. If all barriers to movement can be overcome, a comprehensive study of species occurrence and density within South Mountain Park would be useful to determine the types of crossings that should be build, species use of crossings once built, and long term population dynamics pre and post freeway construction.

Alicia Jontz
Wildlife Manager Central Phoenix
623-556-1158



JANET NAPOLITANO
GOVERNOR

STATE OF ARIZONA
Office of Homeland Security
1700 W. Washington Street Phoenix, AZ 85007
(602) 542-7030 Facsimile: (602) 364-1521



FRANK F. NAVARRETE
DIRECTOR

June 15, 2006

Victor M. Mendez
Director
Arizona Department of Transportation
205 South 17th Avenue
Room 135 A
Phoenix, Arizona 85007

Dear Director Mendez:

The intent of this letter is to document the Arizona Office of Homeland Security's position concerning the proximity of the South Mountain Freeway to the tank farm at 55th Avenue and Van Buren Street.

The security of the tank farm will not be compromised by the alignment and design of the freeway as long as the changes outlined by City Manager Fred Fairbanks in a June 2, 2006 letter are made.

These changes include:

- Shift freeway alignment as far west as possible, while remaining in the vicinity of the 55th Avenue corridor;
- Minimize the take of land from the tank farm site;
- Build a screen wall or barrier that will block the line of sight from trucks on the freeway mainline and northbound off-ramp into the tank farm. The ramp barrier should be designed to prevent a heavy vehicle from penetrating into the tank farm; and
- Collaborate with representatives from the Arizona Counter-Terrorism Information Center in developing appropriate protection solutions for the tank farm in relation to potential effects from the freeway right-of-way.

Sincerely,

Frank F. Navarrete, Director
Office of Homeland Security

GILA RIVER INDIAN COMMUNITY

SACATON, AZ. 85247

ADMINISTRATIVE OFFICES
P.O. Box 97—(602) 562-3311

December 2, 1986

Mr. Charles Miller
Director, Arizona Department of Transportation
206 South 17th Avenue
Phoenix, Arizona 85007

Dear Mr. Miller,

As the design stage of the Southwest and Southeast Loops nears, it is important to restate the Tribe's concern that adequate north-south access will serve Gila River Indian Community lands. Although it is still the Tribe's position that a Queen Creek alignment would better serve all parties than the Pecos Road alignment recommended by the Maricopa Association of Governments, we have been actively and beneficially involved in route reconnaissance stage activities with ADOT's consultant teams, HDR, Inc. and Dames and Moore, and with ADOT liaison person Steve Miller. Through them, we have indicated that we will require access at the following points:

- A full T.I. at 59th Avenue;
- A grade separation at 51st Avenue;
- A T.I. at 35th Avenue;
- A T.I. at 19th Avenue;
- A T.I. at 7th Street;
- A T.I. at 32nd Street;
- A T.I. at 40th Street;
- A grade separation at 48th Street;
- A grade separation at 56th Street;
- A grade separation at Kyrene Road;
- A T.I. at McClintock Road.

These locations were developed in conjunction with the City of Phoenix Department of Transportation to assure compatibility with South Mountain developments while serving Tribal needs in a meeting held June 17, 1985, and have been discussed with City of Chandler staff on a number of occasions.

In addition to the above access points, the Tribe must maintain full access to Reservation lands at the freeway-to-freeway

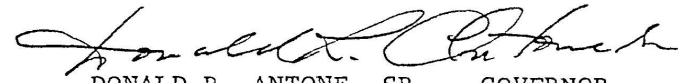
interchanges at I-10 and at Price Road. We believe that the complexity of the interchange at I-10 as presented in the concept stages has negative impacts on access to Pima-Chandler Industrial Park, one of the Tribe's most important economic resources. Similarly, the interchange at Price Road, as presented in concept, did not provide direct access to the south to Tribal lands. These concerns have been stated to both consultants and ADOT representatives.

Because of the proposed freeway location approximately one-quarter mile north of the Reservation boundary, there is a gap between the freeway and Reservation lands that must be acquired as right of way to provide access from the freeway to the Reservation boundary. It is of utmost concern to the Tribe that this access be guaranteed as part of the right of way reservation activities presently being undertaken by ADOT. Further, it is equally important that commitment to the type and location of access points be made at this time so that the Tribe can begin the necessary steps to plan and reserve right of way, drainage, and other facilities on the Reservation.

Before consultants and ADOT staff begin final design recommendations, it is imperative that the Tribe have a commitment from ADOT designating the type and location of access points, and a commitment that ADOT will acquire right of way and fund construction of roads from those access points across the gap between the Reservation lands and the freeway.

Please feel free to contact me if you have any questions.

Sincerely,


DONALD R. ANTONE, SR. - GOVERNOR
GILA RIVER INDIAN COMMUNITY

DRA/dh

cc: Mr. James Stevens, Director, Bureau of Indian Affairs,
Phoenix Area Office
Mr. Vernon Palmer, Acting Superintendent, Pima Agency
Mr. Steven Martin, ADOT
Mr. Eric Keen, Dames and Moore
Mr. Bill Korf, HDR Infrastructure, Inc.